

REMARKS

Claims 1-25 are pending in the application. Claims 1-18 and 20-25 are rejected. Claim 19 is objected to. Claims 9-14 have been canceled. Claims 1-8 and 15-23 have been amended. No new matter is introduced by these amendments.

Reply to the Rejection of Claims 1-4, 6-14 and 20-25 under 35 U.S.C. § 102(b)

The Examiner has rejected Claims 1-4, 6-14 and 20-25 as being anticipated by U.S. Patent No. 5,843,192 to Kirk *et al.* ("Kirk") or, alternatively, rendered obvious in view of Kirk. Specifically, the Examiner states –

Kirk et al teach a composition useful in a washing process containing at least one vinyl amide polymer. The vinyl amide polymer contains from 5 to 100 weight percent of at least one vinyl amide monomer, and from 0 to 95 weight percent of one or more vinyl ester monomers. Kirk et al also provides a method of cleaning an article and a method of providing soil resistance to an article using the vinyl amide polymer. See Abstract. The vinyl amide polymer preferably contains less than 3 weight percent of one or more ethylenically unsaturated carboxylic acid monomers, based on the total weight of the monomers. The carboxylic acid monomers include acrylic acid, methacrylic acid, maleic acid, itaconic acid, etc. The vinyl amide polymer preferably contains less than 3 weight percent of one or more acrylamide monomers. Suitable acrylamide monomers include acrylamide, N,N-dimethylacrylamide, acrylamidoalkylenesulfonic acid, etc. See column 4, lines 30-50. The cleaning solution may optionally contain additional components such as surfactants, builders, buffering agents, bleaching agents, enzymes, perfumes, etc. See column 5, lines 1-35. The treatment solution is contacted with the article by immersing the article with the solution. See column 6, lines 25-45.

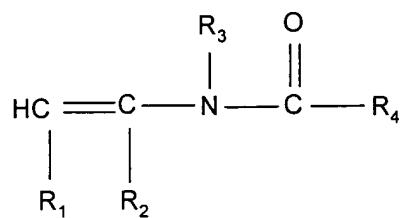
Specifically, Kirk et al teach a composition containing 8% linear alkyl benzene sulfonate, 16% alcohol ether sulfate, 6% nonionic surfactant, 0.5% enzyme, 2% vinyl amide polymer, etc. See column 14, lines 50-69. Note that, the Examiner maintains that the vinyl amide polymer would inherently have the same mole percent of amide monomer as recited by the instant claims. Accordingly, the broad teachings of Kirk et al are sufficient to anticipate the material limitations of the instant claims.

Alternatively, even if the broad teaching of Kirk et al are not sufficient to anticipate the material limitations of the instant claims, it would have been nonetheless obvious to one of ordinary skill in the art to arrive at the claimed mole percent of amide polymer of the composition in order to provide the optimum soil resistant properties to the composition since Kirk et al teach that the amount and type of amide used in formulating the resultant polymer may be varied.

For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 1-4, 6-14 and 20-25 as being anticipated by Kirk.

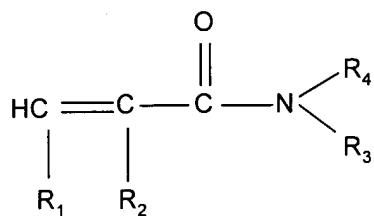
Referring to Kirk, therein is disclosed a composition useful in a washing process containing at least one vinyl amide polymer and an additive (Abstract; col. 2, lines 32-35). The vinyl amide polymer has 5-100 weight % of at least one vinyl amide monomer, and 0-95 weight % of one or more vinyl ester monomers (col. 2, lines 28-49). The vinyl amide polymer preferably has less than 3 weight % of one or more acrylamide monomers, and less than 3 weight % of one or more ethylenically unsaturated carboxylic acid monomers (col. 2, lines 41-45).

The at least one vinyl amide monomer required in the composition of Kirk is of the formula –



(col. 3, lines 12-36; claim 1).

The vinyl amide polymer can optionally be formed from one or more ethylenically unsaturated monomers that are preferably monoethylenically unsaturated and nonionic (col. 3, line 66 – col. 4, line 3). Preferably, the vinyl amide polymer contains less than three (3) weight percent of one or more ethylenically unsaturated carboxylic acid monomers such as acrylic acid, methacrylic acid, maleic acid, itaconic acids and salts thereof (col. 4, lines 33-38; claim 1). The vinyl amide polymer also preferably contains less than three (3) weight percent of one or more acrylamide monomers of the formula –



(col. 4, lines 39-55; claim 1). Examples of such acrylamide monomers include N,N-dimethylacrylamide.

The composition of Kirk is a washing composition that includes a vinyl amide polymer in a weight percentage of 0.01 to 20 weight % of the composition. This vinyl amide polymer is formed from 5 to 100 weight percent of a vinyl amide monomer and from 0 to 95 of a vinyl ester monomer. As shown above, Kirk teaches that the polymer can also optionally include acrylamide monomers in an amount of less than 3 weight percent. Kirk also teaches that carboxylic acid monomers can be optionally found in the polymer in an amount of less than 3 weight percent.

The composition of the present invention includes a polymer having one or more amide monomer units as one of the main monomers used in preparing the polymer. Unlike the vinyl amide monomers of Kirk, these amide monomers are free of amine linkages in the side chain. Still, the polymer of the present invention can optionally be copolymerized with hydrophobic ethylenically unsaturated monomers such as vinyl monomers. Independent claims 1 and 22 have been amended so that the amide monomer unit is in an amount of at least five mole percent. In contrast, the optional acrylamides of Kirk are limited to an amount of less than three weight percent. Accordingly, as Kirk does not teach or suggest a polymer comprising an amide monomer free of amine linkages and in an amount of at least five mole percent, Kirk cannot be said to anticipate the present surface protection composition.

It is believed that these remarks overcome the Examiner's rejection of claims 1-4, 6-14 and 20-25 as being anticipated by Kirk under 35 U.S.C. § 102(b) or, alternatively, rendered obvious in view of Kirk under 35 U.S.C. § 103(a). Withdrawal of the rejection is respectfully requested.

Reply to the Rejection of Claims 5 and 15-18 under 35 U.S.C. § 103(a)

The Examiner has rejected Claims 5 and 15-18 as being unpatentable over Kirk. Specifically, the Examiner states –

Kirk et al are relied upon as set forth above. However, Kirk does not specifically teach a polymer treated substrate having associated thereon a polymer containing an amide monomer and the other requisite components of the composition in the specific proportions as recited by the instant claims.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to formulate a polymer treated substrate having associated thereon a polymer containing an amide monomer, a hydroxyl alkyl urea monomer,

and the other requisite components of the composition in the specific proportions as recited by the instant claims, with a reasonable expectation of success and similar results with respect to other disclosed components, because the broad teaching of Kirk et al suggest a polymer treated substrate having associated thereon a polymer containing an amide monomer, a hydroxyl alkyl urea monomer, and the other requisite components of the composition in the specific proportions as recited by the instant claims.

For the following reasons, Applicants respectfully traverse the Examiner's rejection of claims 5 and 15-18 as being unpatentable over Kirk.

Kirk was discussed above, those arguments being incorporated herein. As shown above, the composition of Kirk is a washing composition that includes a vinyl amide polymer in a weight percentage of 0.01 to 20 weight % of the composition. This vinyl amide polymer is formed from 5 to 100 weight percent of a vinyl amide monomer and from 0 to 95 of a vinyl ester monomer. The polymer of Kirk can also optionally include acrylamide monomers in an amount of less than 3 weight percent. Kirk also teaches that carboxylic acid monomers can be optionally found in the polymer in an amount of less than 3 weight percent.

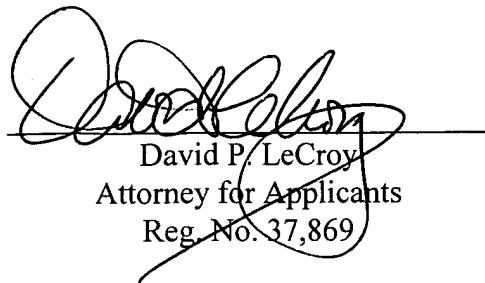
In contrast, the composition of the present invention includes a polymer having one or more amide monomer units that are free of amine linkages in the side chain as one of the main monomers used in preparing the polymer. Independent claim 1, from which claims 5 and 15-18 depend, has been amended so that the amide monomer unit is in an amount of at least five mole percent. In contrast, the optional acrylamides of Kirk are limited to an amount of less than three weight percent. Accordingly, as Kirk does not teach or suggest a polymer comprising an amide monomer free of amine linkages and in an amount of at least five mole percent, Kirk cannot be said to render obvious the present surface protection composition.

It is believed that these remarks overcome the Examiner's rejection of 5 and 15-18 as being unpatentable over Kirk under 35 U.S.C. § 103(a). Withdrawal of the rejection is respectfully requested.

Based on the above amendments and remarks, allowance of the claims is believed to be in order, and such allowance is respectfully requested.

Respectfully submitted,

Dated: 24 January 2004
NATIONAL STARCH AND CHEMICAL
COMPANY
Post Office Box 6500
Bridgewater, New Jersey 08807-0500
Phone 908.683.5433
Fax 908.707.3706



David P. LeCroy
Attorney for Applicants
Reg. No. 37,869